1) (3 pts) Identify the following types of atomic orbitals:

A)  

B)  

C)  

2) (3 pts) What bond angles do you expect between groups bound to the following types of carbon?

A) $sp$  

B) $sp^2$  

C) $sp^3$  

3) (2 pts) Draw the structural formula for 1-ethyl-3-(1,2-dimethylbutyl)cyclohexane.

4) (2 pts) Give the IUPAC name for the following molecule: